

THIS ISSUE 150 000 COPIES

THE AMERICAN FRUIT GROWER



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IDE



"Young man—you have it!" said the Wizard of Menlo Park

IT IS A warm August evening in 1896. Around a banquet table on Long Island sit Thomas A. Edison and the country's leading men of the electrical industry.

The talk swings naturally to politics, to Bryan and McKinley and the Cuban situation—then back again to business. There is high discussion about storage batteries to drive America's "horseless carriages". Someone points to young Henry Ford, Chief Engineer of the Detroit Edison Company, and says: "There's a man who has built a gas car!"

At once, Edison eagerly begins to ask questions—and to listen. "How

do you explode the gas in the cylinder—by contact or by a spark?"

On the back of a menu, Henry Ford sketches the details of his engine. Edison in his enthusiasm thumps the table so hard the glassware tinkles.

"Young man, that's the thing—you have it. Keep at it. Your car is self-contained—carries its own power plant—no fire, no boiler, no smoke, and no steam. *Keep at it!*"

Here was just the challenge and encouragement which Henry Ford needed most. It was something he never forgot. And through the years, keeping-at-it has remained a firm tradition of the Ford Motor Company

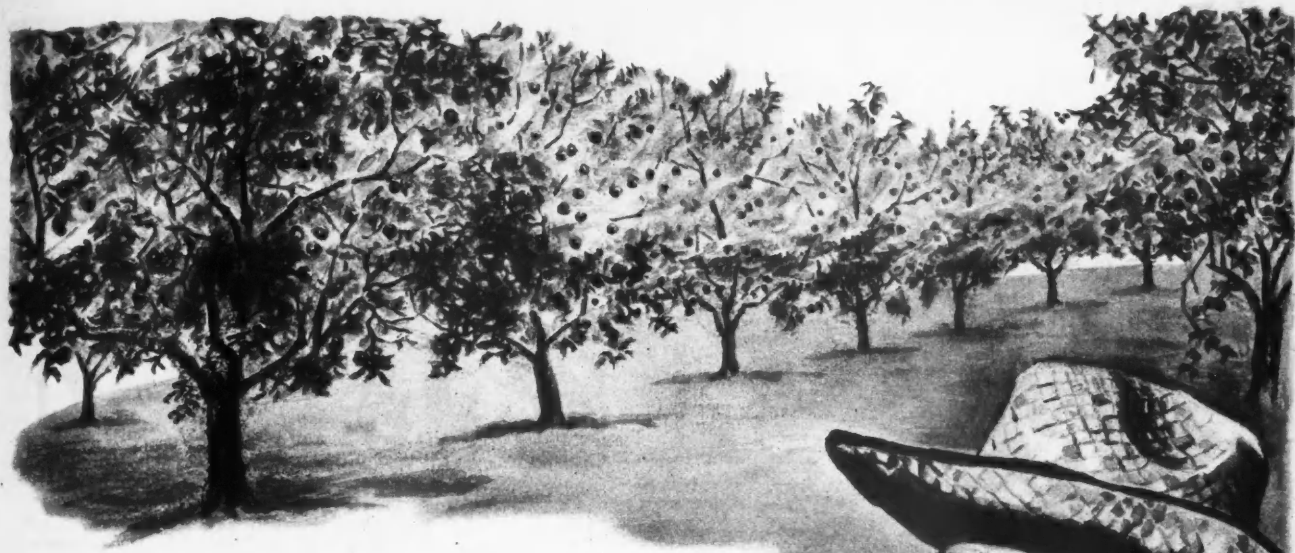
as it has moved forward in the creation of 30 million cars and trucks.

It is this keeping-at-it in research, in engineering and production, that has made the Ford name a synonym for smart, comfortable, economical transportation, priced to serve the needs of the greatest number.

In peaceful days ahead, the new Ford, Mercury and Lincoln cars will reflect all the established Ford skills and inventiveness. Their advanced styling will match their quality leadership. They will benefit by the newer knowledge of materials and techniques being achieved as Ford *keeps at it* in making tools for victory.

FORD MOTOR COMPANY





"HERE'S WHY I NEVER SKIP 'PARMONE' HORMONE TREATMENT"

"To me, hormone treatment with 'Parmone' is low-cost insurance to protect my whole year's work and investment.

"I've spent a lot of time and money in bringing my crop this far.

"I've cultivated and fertilized, pruned, applied dormant sprays, and all season long I've been spraying or dusting to fight bugs and blight.

"In a few more weeks my crop will be ready. I want it to be as big as possible. But every time good fruit hits the ground and becomes another cull, that means less profit for me.

"To cut down expensive pre-harvest drop I always invest in just one more precaution before I take my profit—'Parmone'."



"PARMONE" means bigger, better yields—more profit!

HERE'S WHAT "PARMONE" DOES

- Reduces pre-harvest drop and cull losses.
- Permits development of better size, color and quality.
- Lessens droppage caused by untimely winds or jarring.
- Cuts down spot picking.

TAKE ADVANTAGE of the easy and inexpensive protection "Parmone" gives against pre-harvest drop of apples and pears. The effect lasts as long as 1 to 3 weeks. "Parmone" neither *accelerates* nor *arrests* the ripening period. The treatment merely gives protection against excessive dropping during the normal harvesting period.

"Parmone" is concentrated. One pint makes 400 gallons of spray. There are no weighing or mixing problems.

"Parmone" reduces pre-harvest drop of apples and pears by retarding dissolution of the abscission layer between the fruit stem and the spur (see broken line.)



"Parmone" also comes in DUST form for those regions where dusting is more practical than spraying. It is comparable in cost and effectiveness to the SPRAY.

Order your supply of "Parmone" today. "Parmone" in your orchard will mean greater profits in your pockets.

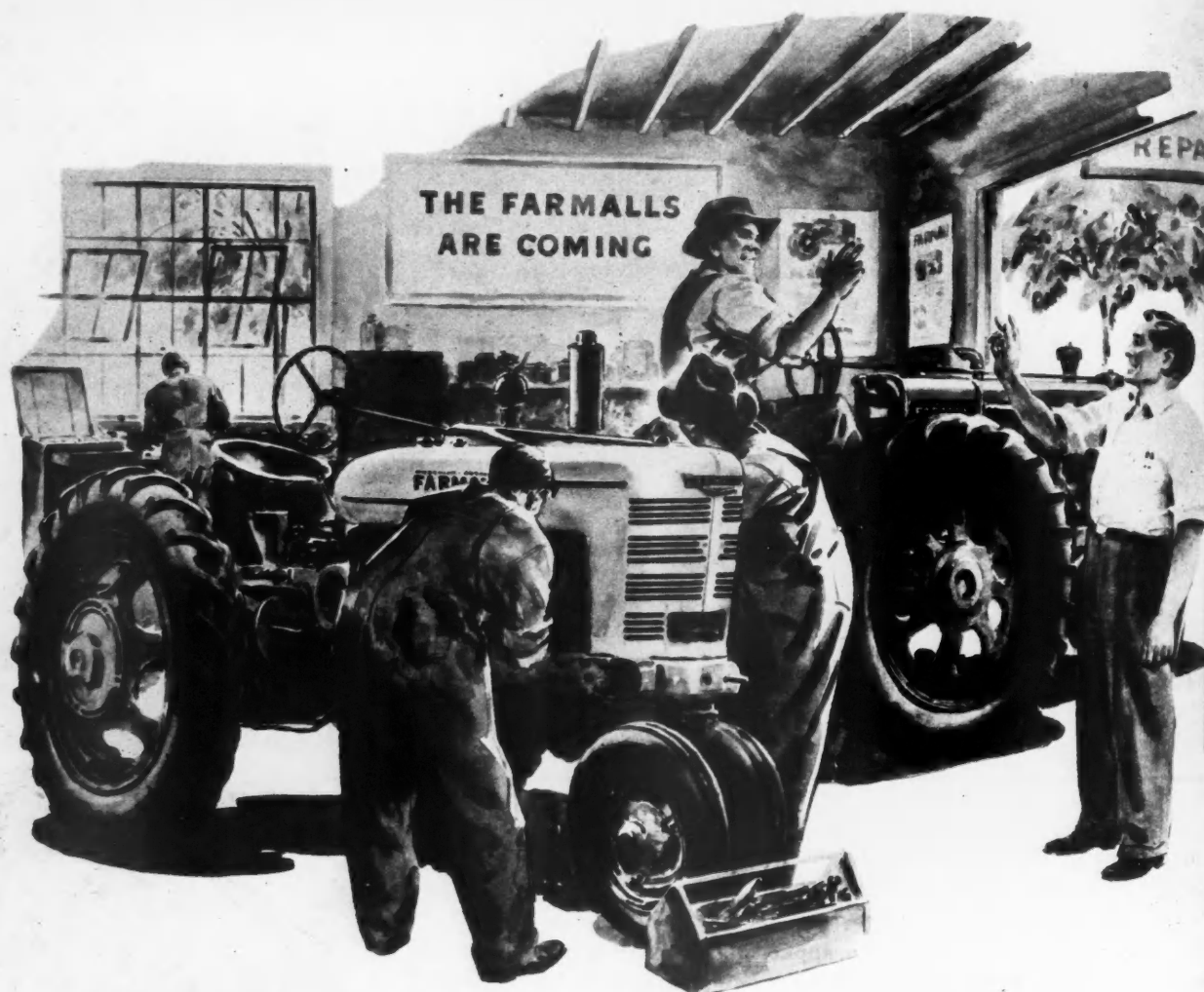
For more information write for the interesting "Parmone" folder. E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington 98, Delaware.

DU PONT PARMONE

REG. U. S. PAT. OFF.


HORMONE SPRAY or DUST

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY



BETTER THAN ONE A MINUTE!

In six months 5000 McCormick-Deering dealers repaired more tractors of all makes than International Harvester built in the three years before the war.

That's putting power back on the land at an all-time record-breaking clip—one tractor every 50 seconds!

★ ★ ★

You men on farms know better than anyone what this service work has meant to war food production. When war cut farm machine production to almost nothing McCormick-Deering dealers lit into repair work on the greatest scale in history. The job they are doing now is winning a new place for them in the forces

fighting for food throughout the country.

More help is now on the way. The government has authorized increased production of Farmalls and Farmall equipment. We are building with all possible speed. But here's the thing to remember:

You're going to need all the equipment you have and all you can get for a long time to come. Keep your machines in first-class shape. McCormick-Deering dealers will help you. They operate the greatest farm equipment service and repair force in the nation.

Schedule your work now.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago 1, Illinois



SERVICE WILL PULL YOU THROUGH!

LETTERS TO THE EDITOR

It's Still Elberta

Dear Mr. Meister:

You have received a lot of criticism relative to the spelling of Elberta on the front page of your issue of the *American Fruit Grower*. As a bit of salve to heal the open wounds, I am sending you a picture I took in North Carolina about six years ago. You will note (below) that the grower in Carolina preferred Alberta to Elberta. Of course, we are not excusing your magazine on this score, but perhaps a Gallup poll might show many people, even growers close to Georgia, who think the name is Alberta.

University of Maryland A. Lee Schrader

Dr. Schrader is a sympathetic person. It's a good thing this picture was taken six years ago, before we misprinted Elberta, or we might be blamed.—Editor



Roadside stand near Candor, North Carolina.

Crops Are Good

Dear Sir:

Around here the peach crop is grand. The trees cannot carry any more fruit. I must say I never had a better small fruit crop than I have had this year. I have had one thousand quarts each of currants, raspberries and strawberries.

Thanks to your *Fruit Grower*. I never would be without it.
Yonkers, New York C. H. Herrman

Thanks for Grower Herrman's kind words.—Ed.

Birds Versus Cherries

Gentlemen:

Note letter in "Letters to the Editor" in the July 1944 issue, entitled "Cherry Time" by Owen E. Willard, regarding keeping birds out of cherry trees. Would suggest this gentleman try artificial or wood-jointed snakes like those found in a 10c store on a small scale. This has been known to work —by tying them in cherry trees along the branches or across the twigs. Naturally, the snakes should be tied in several places so as not to hang by the middle, head or tail.

Hagerstown, Maryland C. W. Mason

Dear Editor:

I am writing in answer to a letter to the editor on "Cherry Time" concerning frightening birds away from cherry trees. When fruit is ripening and ripe, just try winding

a water hose in the top of branches, or an old piece of hose cut into pieces. The birds think there are snakes in the trees. This method has been very successful in central states, and I have known it to be a perfect success in some cases. I like to divide our fruit with the birds, but we do appreciate saving some for ourselves.
Kentucky A Grower

Dear Sir:

In the July issue, Mr. Willard wrote that he was having trouble with birds in his cherry trees. Maybe he knows about this, but if he doesn't, it may do him some good. I cut small pieces of bright parts of tin cans, hang them on a string, and tie to some of the limbs of the trees. The reflection seems to scare the birds away. For me it has been successful.
San Bernardino, Calif. R. T. Porter

These comments seem conclusive about keeping birds away from cherries. The only further suggestion we can think of would be for some fruit breeder to develop a cherry tree on the DDT principle that would be poisonous to birds but not to humans. Will Cornell's Liberty Hyde Bailey please take note.—Ed.

Hobby Grower

Dear Sirs:

I have just been reading your article on "Fruit Growing as a Hobby." I am one of those people. In a minor way I have been at it for at least twenty years. All this time I have been in post office work as a business but play with trees.

I have a seedling cherry tree that follows the Early Richmond type that ripens in 41 days. I have an apple from Ben Davis seed that equals Delicious in eating quality. The tree is as hardy as Wealthy and blooms a week later. It is a tree for the north country but the apples drop off very badly and it is not a red apple. The apple is a pale yellow Ben Davis type. I have thought of breeding the undesirable features out of it, but alas, I have begun to realize that I am too old to do the job.

I should add that I am in the 5th zone regarding fruit raising—the most impossible place on earth to raise fruit.
Lingle, Wyoming J. A. Woods

We would like to taste one of those Ben Davis seedlings that rivals Delicious in quality.—Ed.

William Penn's Apples

Dear Sir:

I notice in Table One in your article "Apple Production By Varieties" in the *American Fruit Grower* that you mention the dates on which a number of apples were introduced, or, the time of their recognition.

Will you kindly let me know where these dates were obtained. In the restoration of Pennsbury, the Manor Home of Sir William Penn, which was built in 1683, we would like to place in the orchard, apple trees which were recognized at that time. We haven't had any glaring success in obtaining these varieties and I wonder if you could be of any assistance to us in this?
Penn. Historical Commission Ross Pier Wright

Write to H. P. Gould, author of the article, at 3909 13th St. N.W., Washington 11, D.C.—Ed.



Complete
is PROTECTION
Essential

The actual cost of a complete spray program, compared with other orchard management costs, is small.

Leaving a loophole for disease and pests may spoil the year's production and give your orchard a set-back in next year's fruitbuds.

Planning next year's spray program should start as soon as this year's crop is harvested.

Active spraying starts in the dormant period and is completed with prevention of pre-harvest drop and control of storage impairment.

ORTHO fieldmen are at your service the year round.





Fruits such as peaches are sliced directly into container for freezing. In filling cartons, allow head room for expansion during freezing. Here, cold sugar syrup is being added to sliced peaches. One-half cup per pint is used; 1 cup per quart.

HOME FRUIT FREEZING

PRICES have soared in the fresh fruit market this year. High prices will undoubtedly affect the home canners' market, for not many housewives will feel that the price of produce is within her means for canning.

On the other hand, it is very likely that those women who have access to space in a locker plant, and those who have a home freezer—especially those women who preserved fruits by freezing last year—will feel that even at exceptionally high prices, frozen fruit is well worth the money.

Although freezing fruit produces a noticeable change from the fresh product, the results are so delightfully superior to other means of fruit preservation, that whenever served (even when the fresh fruit is in season), they seem like a special treat. For if properly prepared, frozen fruit makes delicious pie and dessert stock.

Fruits are changed by freezing to a varying degree. Those least changed, and consequently among the easiest to freeze, are cranberries, currants, gooseberries, red tart

By **DONALD K. TRESSLER**
Westport, Connecticut

cherries, blueberries and raspberries. Peaches and strawberries are more changed in appearance, texture, and flavor from the fresh, but when thawed are exceptionally good. Apples and plums make excellent pie stock. But, on the other hand, grapes, pears and blackberries are so changed in flavor and texture after freezing that they are undesirable. Bananas blacken so much during freezing and thawing that they are also undesirable as a frozen product. Whole citrus fruits do not freeze well; but citrus juices, such as orange or grapefruit, freeze very satisfactorily.

Varieties of a fruit are also affected by freezing to a varying degree. For instance, the Duke variety of sub-acid cherry gives an excellent frozen product, but the Napoleon and other sweet varieties darken to such an extent during freezing and

thawing that they are not very satisfactory as a frozen product.

In the case of peaches, the J. H. Hale peach is by far the best variety for freezing. The Hale Haven and South Haven varieties also produce superior products, and should be used for freezing wherever available.

There is also a universally "best" variety of raspberries that is preferred for freezing wherever it is grown. This is the Cuthbert raspberry which does especially well in the Pacific Northwest, but is also grown in the New England states, middle Atlantic states, in California and the Pacific northwest.

As can be seen, varieties are of great importance in the selection of fruit for freezing. In general, the highly-colored, highly-flavored, meaty fruits which do not brown or otherwise discolor readily, are better than those varieties which are high in catechol-tannins.

The booklet, "*Frozen Foods—How to Prepare, Package, Freeze, Cook*," published by the General Electric Consumers Institute,

Bridgeport, Conn. (available without charge), gives good detailed information on the varieties of fruits best adapted to freezing. For specific varieties in any special locality, the State Agricultural Experiment Station is another good source of information.

Like all other methods of food preservation, freezing does not improve the fresh product—it merely retains what flavor is there to begin with. At all times, it is undesirable to freeze fruit which is under-ripe, or fruit which is past its optimum maturity and is in the mushy stage. Green, under-ripe fruit when frozen and thawed will still be lacking in fruit flavor, and may become bitter. Mushy fruit, when frozen and thawed, becomes very mushy and less desirable. Fruit picked green and left to ripen will not produce an especially desirable frozen product.

Tree-ripened fruits in the soft-ripe stage of maturity are best for freezing. Texture is then the best; they are full of flavor; color is bright and vivid.

Most fruits lose flavor, color and vitamin content during freezing, storage and thawing unless they are protected against this loss in some way. Mixing with dry sugar or covering with a heavy sugar syrup are the simple means of protection—retarding this loss which comes from oxidation when the cut fruit is exposed to air.

The technical reasoning behind the use of sugar or syrup is two-fold. Sugar, as a chemical agent, retards enzymic action during storage. The syrup or juice drawn from the fruit by the sugar, thus forming its own syrup, covers the fruit during freezing, storage and thawing, thereby preventing contact of air with the fruit and so retards oxidation (browning). This explains, in part, why the mere freezing of most fruits without the use of sugar or syrup will not preserve them to any degree of palatability, but will produce a product so darkened in appearance, so changed in flavor and texture that it is unpalatable.

The only fruits which can be frozen satisfactorily without sugar or syrup, or heat treatment (as in the case of apples), are cranberries and blueberries. However, even blueberries are better when frozen with sugar.

The methods of preparing fruits for freezing fall into six classifications:

1) No treatment at all (other than sorting and washing);

- 2) Packing the whole fruit with heavy syrup;
- 3) Packing of the sliced, quartered or halved fruit with heavy syrup;
- 4) Packing the whole fruit with dry sugar;
- 5) The addition of dry sugar to the sliced or crushed fruit;
- 6) The scalding of the fruit (boiling water or steam).

The accompanying table gives the detailed preparation steps for each of these methods of freezing fruits. Indicated also is the preferred method of preparing each of the common fruits.

Since most fruits are either mixed with sugar (which draws juice from

the fruit), or covered with syrup, one of the prime requirements for packaging fruit for freezing is that the package be liquid-tight. There is nothing more aggravating to the person with a home freezer or locker space than to put fruit in a package and discover, after the damage has been done, that the syrup has leaked out all over the other packages. So liquid-tightness is a matter of major importance.

The heavily waxed type of cup container is best in many ways for freezing fruits. They are not only liquid-tight, but they are strong.

If bags are used in folding cartons, great care should be taken in the selection of bags so as to be sure they are liquid-tight.

Glass and tin containers may be used, provided they are not filled more than 9/10ths full. Liquid, when freezing, expands; if head room is not allowed for expansion, glass or tin containers may become broken.

To date, many persons have expressed a decided preference for frozen berries and peaches to the canned products. This preference is very apt to change the food preservation picture in the years to come—especially after the war, when home freezers are manufactured and when new locker plants will mushroom into being all over the country. It is probable that among those women who now preserve all or part of their family's fruit needs by canning or cellar storage, many will change to freezing.

Further, since the frozen products are thought to be superior to the canned, nutritionally speaking, larger quantities of fruits may be required by the consuming public than ever before.

If these changes occur, two demands, as I see it, are likely to be felt by the fruit growers of the country. The first is a demand for varieties of berries and peaches which will give an especially desirable frozen product; the second, a demand for increased quantity by consumers.



Roadside market of fruit grower, R. R. McUmber, Greenfield, Tenn., from which 6,190 pounds of frozen strawberries, put up in two-pound and one-pound attractive cellophane containers, were sold.

Step-By-Step

PREPARATION OF FRUIT FOR FREEZING

*Indicates preferred method.

1. *No Treatment:* Sort, wash in cold running water or water containing ice, and package without further treatment.

Fruits suited to this method: Cranberries*, blueberries.

2. *Treatment of whole fruit with syrup:* Sort, wash in cold water or water containing ice, package, cover with syrup.

Fruits suited to this method: Blackberries*, dewberries*, loganberries*, boysenberries*, youngberries*, sweet cherries*, sub-acid cherries, gooseberries, grapes, figs, raspberries, strawberries, currants.

3. *Treatment of sliced or cut fruit with syrup:* Sort, wash, peel, hold in running cold water or water containing ice, slice or cut directly into package, cover with syrup.

Fruits suited to this method: Peaches*, apricots*, pineapples*, plums*, prunes*, figs*.

4. *Treatment of whole fruit with sugar:* Sort, wash in water containing ice, pit if necessary, mix with sugar, pour into package.

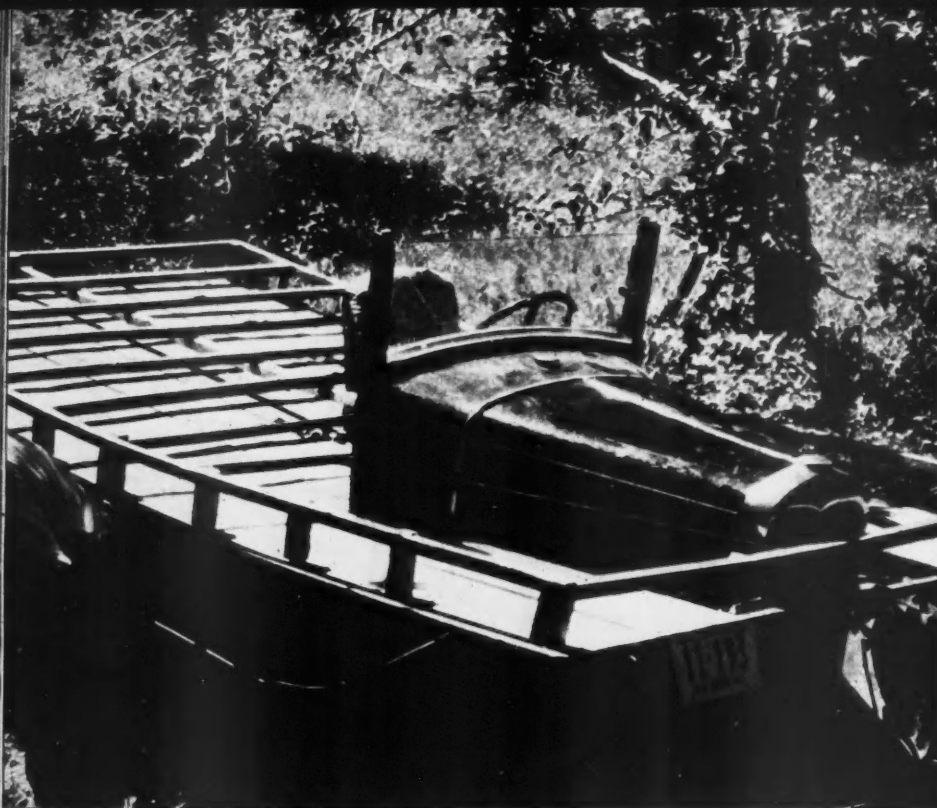
Fruits suited to the method: Blueberries*, tart cherries*, sub-acid cherries*, currants*, plums, prunes, strawberries, loganberries, boysenberries, youngberries.

5. *Treatment of sliced or crushed fruit with sugar:* Sort, wash in water containing ice, slice or slightly crush, mix with sugar, package.

Fruits suited to this method: Strawberries*, raspberries*, cranberries.

6. *Treatment of fruit to scalding period:* Sort, wash in cold running water or water containing ice, peel, core, slice and hold under water until ready for scalding, scald by blanching in steam 1½ to 2 minutes, cool, package.

Fruits suited to this method: Apples*



A platform on a light car is convenient in hauling picking buckets full of fruit

APPLE HARVEST AND STORAGE

Some Present Day Problems in Handling Fruit

By A. VAN DOREN

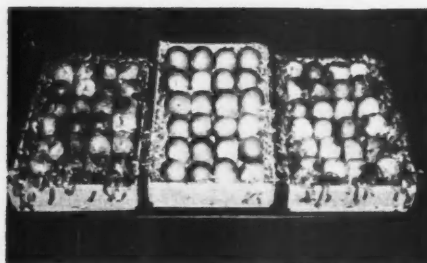
Ohio State University

EACH year presents new problems to the fruit grower and these, together with the many older, as yet unsolved problems, keep the orchardist busy trying to adjust his program to meet changing situations.

Not the least of our problems this fall will be the training of inexperienced workers to harvest and handle the fruit. Good training by the employer saves both the employer's and the worker's time, and gets the work done better. A sound training program in every orchard where help is hired should be as much a part of the farm business as is the maintenance of good trees, raising a good crop, and the purchase, use and care of good equipment. A major complaint of most dissatisfied orchard help is that they did not receive adequate instruction.

Another persistent problem in many orchards is the wide fluctuation in annual yield from one year to the next. Harvesting, handling and storage can be greatly facilitated if crops are more

uniform in size, grade, and quality. Some varieties tend toward excessive fruit setting with the associated tendency to become alternate bearing in habit. Also frost can eliminate a crop at bloom time and thus throw a block of fruit into heavy alternate bearing. Some of the apple varieties that naturally tend to alternate bearing are Baldwin, Wealthy, Golden Delicious, Yellow Transparent, Early McIntosh, and others. During the "on-year,"



Apples removed from storage June 1st. Tray on left was stored in regular cold storage at 40°F. Tray in center was stored in controlled atmosphere storage at 40°F. Tray at right was stored in 32°F. regular cold storage.

hand thinning is usually necessary on such varieties to produce fruit of commercial size and grade. While hand thinning will improve the size and quality of the fruit in the immediate crop, it is not practical to accomplish the thinning early enough to influence the annual bearing. With the present acute labor shortage and the high price of inexperienced help, many growers are now finding it increasingly difficult to accomplish even a partially satisfactory job of hand thinning.

Studies have shown that bloom sprays for thinning some varieties of apples and peaches are practical. A survey among the County Agricultural Agents of New York State indicates that about 1100 acres of Wealthy, 510 acres of other varieties, mostly Baldwin, Rome, Duchess, Transparent, and Golden Delicious, were sprayed at bloom time for the purpose of thinning the crop in the spring of 1943. Much wider application of the practice in both apples and peaches was done in 1944.

Blossom thinning is done by using very dilute solutions of the sodium salt of dinitro-cresol, an organic material which is available to the trade as a proprietary product. The reason all flowers on the tree are not destroyed lies in the fact that the freshly opened flowers and the flowers on weak spurs are more susceptible to a given concentration of the toxicant than are the more advanced flowers on spurs of good vigor. It will be recalled that the center flower on the apple spur opens a day or two before the other lateral flowers on the same spur. The time elapsing between the opening of the center flower and the lateral flowers is usually a day or more, but this will depend largely on the prevailing temperature. The toxic spray destroys the flower that has been open for only a few hours but does not prevent fruit setting by the vigorous well-situated flowers that have been open for a day or more. A commercial crop from the center flowers of the spurs is usually assured by the time the petals on the lateral flowers unfold and it is just at this stage of development, the first day of full bloom that a thorough application of the spray has resulted in the most satisfactory degree of thinning. Two important facts that must be clearly understood are: first, the concentration should be varied according to the vigor of the tree; second, the application should be timed to coincide with the first day of full bloom.

Some leaf injury results when apples are sprayed with the toxic bloom spray but the tree overcomes this easily if sufficient thinning is done. Little or no leaf injury occurs on

peaches when sprayed in the bloom, yet an excellent job of thinning is possible with the proper concentration applied at the right stage of bloom development.

The concentration of dinitro-cresol (Elgetol) varies with the variety and vigor of peach. For instance, on Elberta trees that set 21.6% on check trees, an application of one half pint of Elgetol per 100 gallons of water reduced the percent fruit set to 10.7 percent, whereas one and one half pints of Elgetol per 100 gallons of water reduced the percent fruit set to 3.9 percent. With the variety Valiant which set 12.7 percent fruit on the unsprayed trees, one half pint Elgetol per 100 gallons of water reduced the set to 5.8 percent fruit set, and one and one half pints of Elgetol per 100 gallons of water cut the fruit set down to 1.7 percent, which is far below a normal commercial crop.

Caution needs to be exercised by each grower with each of his peach varieties in learning the desired concentration of Elgetol to use on his particular trees. A few trees should be experimented with for a season or two in order to learn what concentration and what stage of bloom to make the application.

Another problem in the harvesting of fruit is rough handling. This may occur when fruit is dumped from the picking bag into the orchard crate. This can be overcome in large part by using rigid metal pails with flared sides, or wooden picking containers of similar shape. These are much to be preferred over the old canvas picking bag for the more tender varieties of apples such as McIntosh. A heavy wire hook attached to the pail is hung onto the ladder or limbs. With a number of such containers, the apples may be moved directly from the tree to the packing table. The metal bucket with the canvas drop-bottom is satisfactory for the firmer apples. When carefully used, the fruit in this bucket may be put into the field box for movement to the packing shed or storage.

Much time, labor and trucking can be saved by placing the freshly picked buckets of fruit on or near a lightweight portable table that can be moved along through the orchard as the harvesting progresses. The fruit is sorted and sized by hand out of the picking containers, and packed into the marketing or storage box. The packed fruit is stacked in the shade near by and is ready for removal to cold storage or market at once. Fruit that is moved into cold storage the same day it is picked loses none of its keeping quality. On the other hand, fruit that stands around warm packing sheds or in stacks in

the orchard, loses many weeks from its actual storage life. Investigations have shown that one day's delay in removing stacked fruit from warm places to cold storage shortens the actual storage life of that fruit by one week. Delay between the time of picking and the time of storage is known to increase such storage troubles as bitter pit and scald on susceptible varieties of apples. Shriveling of the skin is also accentuated when apples are allowed to remain exposed to high temperatures and rather low relative humidity after picking.

Some varieties of apples tend to fall from the tree at the time of harvest; this pre-harvest drop often starts before the fruit attains the highest color and most desirable degree of maturity. To prevent excessive losses from pre-harvest drop and to gain an increase in size, color and quality, the harvest hormone spray can be applied to the trees at about the time good commercial apples begin to drop. This spray will delay abscission of the fruit and permit the grower to proceed with his harvesting operations without undue loss from drop while picking.

Good control of shrivel and storage scald of apples may be had by waxing the apples at harvest time with a special wax emulsion designated as 489-AM, developed by the Franklin Research Company of Philadelphia, Pa.

Another experimental approach to the problem of storage scald on apples is that developed at Cornell University. These studies have shown that simply by filtering the storage air through brominated, activated charcoal that the scald-causing gas in the storage air could be eliminated and excellent control of scald obtained. This air-conditioning technique is



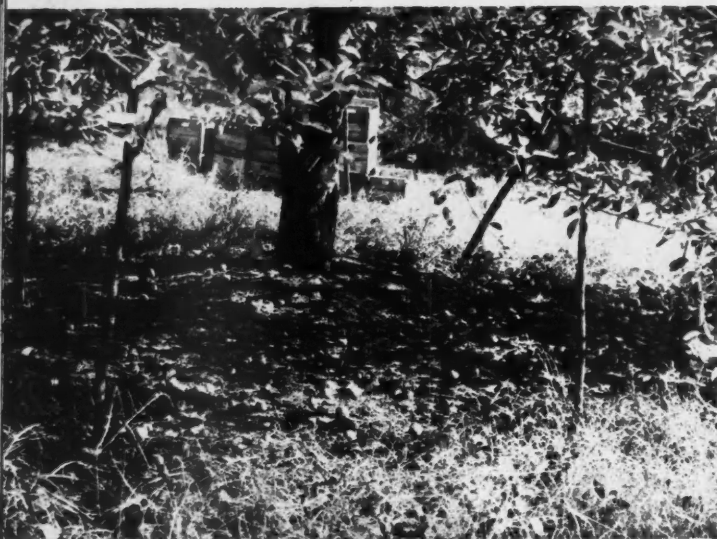
A wooden or metal pail with tapered sides is desirable for use in picking such tender varieties of apples as McIntosh

undergoing extensive commercial trial this season in New York State both in controlled atmosphere cold storage and regular cold storages. These tests involving over 90,000 bushels of nu-

(Continued on page 18)

Rough handling results in bruises which show up after a period in storage as shown below. Skin is pulled back on lower apples to show browning of the bruises, and mealiness.





Two McIntosh trees in adjacent rows. Left: Sprayed September 22; harvested September 28; pre-harvest drop 4 percent; drops incident to picking—72 apples; total yield 14 bushels.



Right: Untreated tree—harvested September 28; pre-harvest drop 16 percent; drops incident to picking 455 apples; total yield 13.5 bushels. Apples on ground are normal drops.

REDUCING APPLE DROP WITH HARVEST SPRAYS

By M. B. HOFFMAN

Cornell University

IT IS now certain that the apple crop will be considerably larger than it was a year ago. In addition, we are told that the peach crop, which was a failure last year, will be about the third largest on record. Harvest workers will be scarce in all areas and in many sections there will be considerable uncertainty about the supply and quality of the help.

Under these conditions any practice that offers promise of relieving the tension will receive consideration by the growers.

The harvest sprays which have been found effective in delaying the drop of apples and pears should prove to be of considerable help in many cases. This treatment is not a complete solution to the drop problem during an extended harvest period and there are certain precautions that should be taken in connection with it. Nevertheless, when the limitations of the practice have been fully realized and it has been properly used, the results have been very gratifying.

Apples, as they approach maturity, will continue to form red color and increase in size as long as they hang on the tree. It is recognized, however, that there is a definite stage of maturity at which each variety should be picked if the fruit is to develop its best keeping and eating quality. If we could by some means delay dropping indefinitely, we would still

have to harvest the various varieties each year at approximately the same time (depending on the season) in order to prevent over-maturity and early deterioration from taking place.

The process of abscission or dropping of fruit is associated with maturity. The ease with which the apple stem separates from the spur is one of the ways to recognize approaching maturity. The abscission zone is just as strong as any other part of the stem until certain processes accompanying maturity begin to operate. When these processes set in, the walls of the cells of the abscission zone are weakened or dissolved out and a crack or split takes place across the base of the stem

which cuts the apple off. The rate of respiration and all the ripening processes are increased by an increase in temperature, consequently hot weather results in a greater apple drop than does cool weather. There are other conditions such as a high nitrogen level of the trees or a low carbohydrate supply resulting from inefficient foliage that contribute to the total amount of drop but when all factors are considered, warm weather during this critical period seems to be the most potent.

In any orchard and for that matter on any given tree, certain apples begin to mature, and as a consequence, abscise or drop before others. There soon comes a time when a large proportion of the crop will reach this condition and if the harvest is not quickly completed, the loss from drop may be heavy. This can happen before satisfactory red color develops, especially if hot weather prevails. High temperatures seem to delay the formation of red color and at the same time hasten these other processes associated with maturity. The harvest of a good crop may start before any appreciable drop has taken place only to have dropping increase from day to day. Under such conditions, a moderate wind or the slight jarring of limbs incident to picking operations

(Continued on page 14)



Pre-harvest drop from 2 McIntosh trees during a 24-hour period of warm weather with moderate wind. Left: Untreated tree (4 baskets). Right: Sprayed tree (1 1/2 baskets).

IN WARTIME . . . IN PEACETIME

"America's Automotive Leader Is At America's Service"

★ ★ ★
**MEETING THE NATION'S
WAR PRODUCTION NEEDS**

Chevrolet has been turning out a huge supply of Pratt & Whitney aircraft engines for bombers and cargo planes; Chevrolet-built GMC "ducks"; 90-mm. guns; armor-piercing and high-explosive shells; aluminum forgings and military trucks — steadily turning out
"VOLUME FOR VICTORY"

★

★ ★ ★
**MEETING THE NATION'S
AUTOMOTIVE
TRANSPORTATION NEEDS**

One out of every four cars and one out of every three trucks now serving America and helping to maintain America's vital, war-winning transportation system—is a
CHEVROLET

★

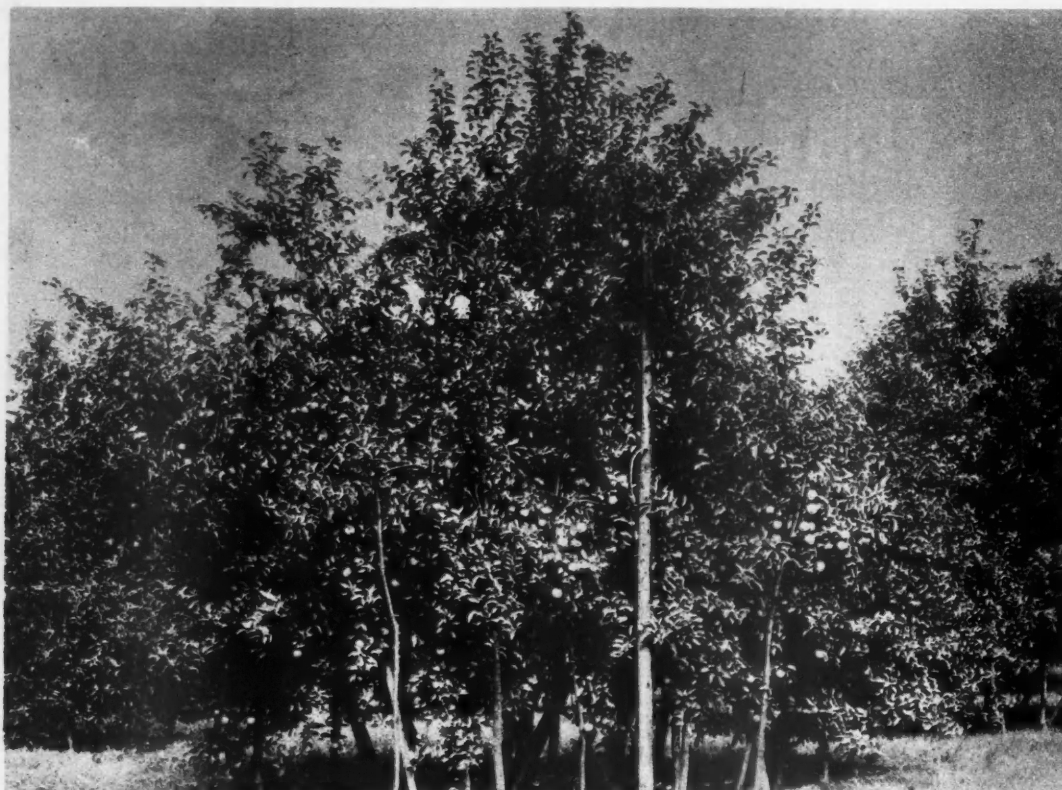
★ ★ ★
**MEETING THE NATION'S
AUTOMOTIVE SERVICE NEEDS**

All signs indicate that more people go to Chevrolet dealers for service than to any other dealer organization. . . . That's why car owners and truck owners say—
"FIRST IN SERVICE"

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CHEVROLET

CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT 2, MICHIGAN



Left: A Rome apple tree well propped. Above: A tree brace exhibited by Robert Anderson of Covert at the last annual convention of the Michigan Horticultural Society. The prop is made of sassafras, the end of which is spread and a block of wood inserted.

PROPPING APPLE TREES

By M. A. BLAKE

New Jersey Experiment Station

EXCESSIVE crops of apples, unless thinned, result in too many undersized fruits, deficient red color, low edible quality, broken branches, and biennial bearing. No matter how well the pruning has been done, serious breakage of branches may occur to trees in heavy crop years. In fact, in a pruning test at the New Jersey Experiment Station, apple trees pruned so that they are relatively open have suffered more serious losses in breakage of branches than unpruned trees. Where the branches are numerous, they help to support each other. The loss of even one large branch from a tree may reduce its potential bearing capacity by 5 or more bushels of fruit. Since thinning of fruit may be more difficult to accomplish in 1944, serious consideration needs to be given to the possibility of some propping of branches.

In a letter to the author, Mr. John Barclay of Cranbury, New Jersey states that a Stayman tree with a 25 to 28 foot spread might require 10 to 15 props. Mr. Vincent Caggiano of Elm, New Jersey states by letter that a Stayman tree of such a size might require from 8 to 10 props. Since trees of the same variety vary in the number of branches they develop in differ-

ent environments, in their type of growth, in the same crop load, and other factors, the number of props needed is certain to vary somewhat in different orchards.

An orchard of 200 Stayman trees with a 25 to 28 foot spread if heavily loaded might require a minimum of 1,600 and a maximum of 3,000 props.

Some varieties require even more props than Stayman. Rome and Cortland are varieties whose upper branches may mat down upon the lower. The apples upon the lower branches may thus receive but little light. The fruits tend to be smaller, lacking in red color and the spurs may not set fruit buds for the following year. To be most satisfactory, propping should be done before the branches mat together.

The successful propping of the branches of an apple tree loaded with fruit should be directed by a person with an understanding of the problem and with some selective skill. The object of propping is not only to prevent the breakage of branches but to insure good sizing and coloring of the fruit.

One should therefore give attention first to the highest branches. Any branch which is likely to mat or break down over a lower one should be supported by a prop. The exact point of

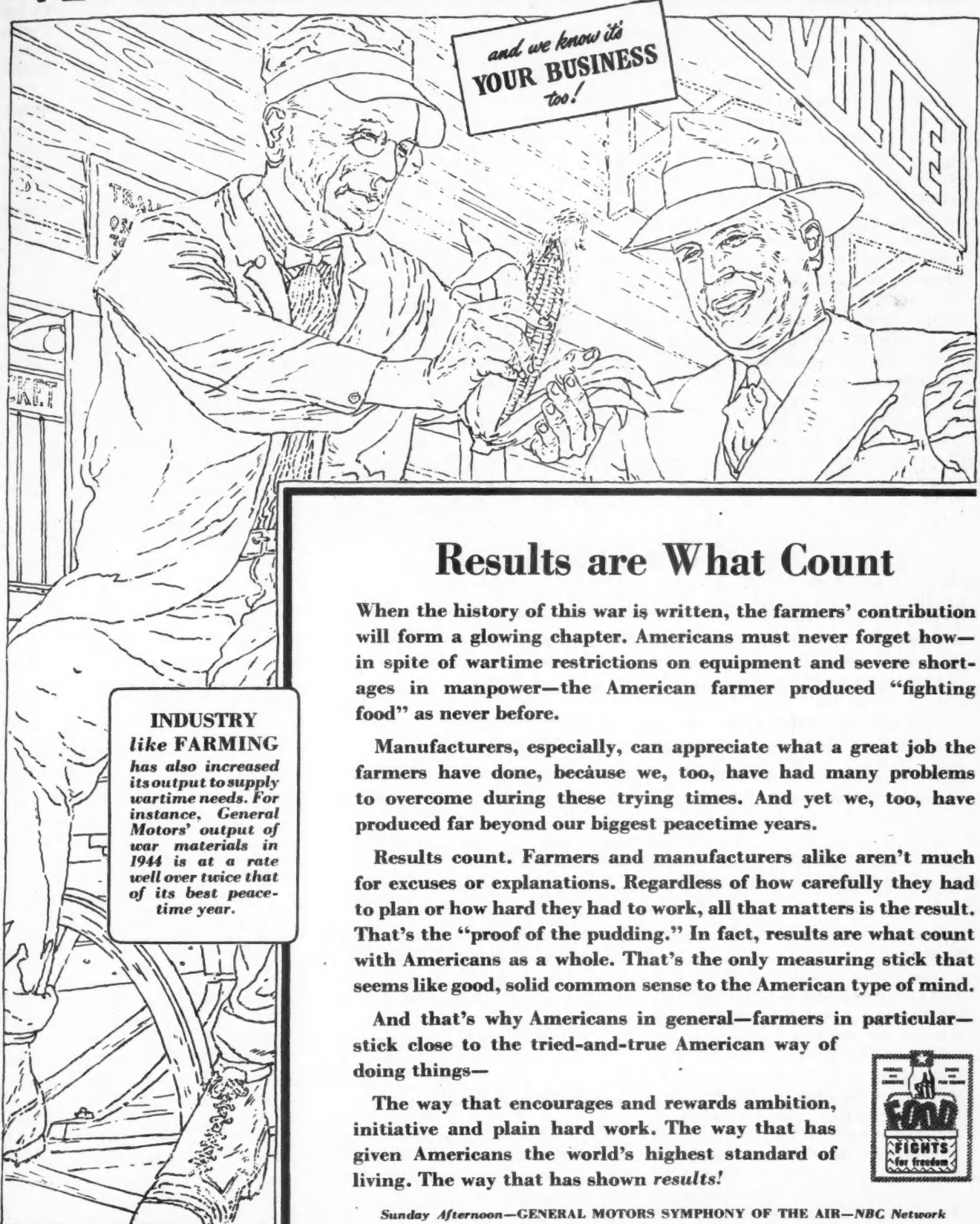
the support is important since if the prop is placed too close to the junction of the branch with the tree trunk the branch may break off beyond the prop. The latter should really be placed as far out along the branch as possible and yet have the weight of the branch sufficient to hold the prop in position. Obviously if the prop is placed too near the extreme tip of a branch the wind may lift the tip sufficiently to remove it from the prop and the latter falls to the ground.

By starting with the topmost branches requiring attention and circling around the tree one can prop in order of need until the lowest branch is reached. When many trees are to be propped it is well to select one person whose duty it is to direct the placing of all the props.

In general, props will be less likely to fall from under branches during storms or high winds if the base of each is nearer the trunk of the tree than its top which is in contact with the branch. Actually from 8 to 15 props per tree is the minimum. When there was plenty of labor, 25 or 30 props were sometimes placed under a tree.

Reprinted from *Horticultural News*.

VICTORY IS OUR BUSINESS



Results are What Count

When the history of this war is written, the farmers' contribution will form a glowing chapter. Americans must never forget how—in spite of wartime restrictions on equipment and severe shortages in manpower—the American farmer produced “fighting food” as never before.

Manufacturers, especially, can appreciate what a great job the farmers have done, because we, too, have had many problems to overcome during these trying times. And yet we, too, have produced far beyond our biggest peacetime years.

Results count. Farmers and manufacturers alike aren't much for excuses or explanations. Regardless of how carefully they had to plan or how hard they had to work, all that matters is the result. That's the “proof of the pudding.” In fact, results are what count with Americans as a whole. That's the only measuring stick that seems like good, solid common sense to the American type of mind.

And that's why Americans in general—farmers in particular—stick close to the tried-and-true American way of doing things—

The way that encourages and rewards ambition, initiative and plain hard work. The way that has given Americans the world's highest standard of living. The way that has shown results!



Sunday Afternoon—GENERAL MOTORS SYMPHONY OF THE AIR—NBC Network

GENERAL MOTORS

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK • CADILLAC • FISHER BODY
GMC TRUCK • FRIGIDAIRE • DELCO APPLIANCE

UNDER a new procedure involving cooperation between the State and County Agricultural Adjustment Agency committees and regional offices of the Treasury Procurement Division, several thousand surplus Army trucks have been placed in specific, critical agricultural uses. The Procurement Division of the Treasury Department has been assigned by the Surplus War Property Administration the job of disposing of all surplus war property termed "consumer goods." The number of Army trucks currently being released is still so small that relatively few persons who need trucks for essential agricultural purposes are able to get them. Special efforts were made to get surplus Army trucks into the wheat belt for use during the big harvest. Georgia reported that the program helped with her peach harvest.

Farmers who can qualify for these trucks on a war-food production basis are supposed to apply immediately to the transportation committee of their County AAA office for a letter of purchase. Upon presentation of the letter at the motor pool, farmers may select a truck and complete the sale through their regular or other truck dealer. Some farmers who have not qualified for new rationed trucks may qualify for used trucks.

Practically all surplus Army and Navy real estate has been assigned to the Reconstruction Finance Corporation for disposal. Such real estate will include all surplus Government-owned real property other than industrial real estate, United States Maritime Commission property, and property controlled by the National

WAR SURPLUS

Housing Agency and the Federal Works Agency.

As an example of real property allotted under this new assignment, there has been declared as "surplus" about 45,000 acres of agricultural and timber land at Camp Adair, near Portland, Oregon, originally acquired by the War Department for training purposes.

Secretary of Agriculture Claude R. Wickard recently advocated a return of the agricultural land which was owned by Government agencies before its utilization for war purposes, and a survey of the remaining agricultural land to determine its proper use. Submarginal land should be assigned to proper State or Federal Government agencies. Such disposition of submarginal land not only would be wise from the standpoint of good land use, but would be economical in the long run, even though the land might be sold for a few dollars per acre. "The land which is determined to be suitable for ranching or farming," he said, "should be divided into family-sized units by persons experienced in such matters. It should be offered for sale only to those who do not now own a family-sized farm and who intend to live on the unit and operate it for a livelihood. No family should be permitted to buy more than one unit. Subject to these conditions, first preference should be given former owners and second preference to war veterans."

There are certain general items or classifications of war materials that

are available for purchase by small businessmen now. Among these items are trucks, hardware items, shoes, bicycles, hospital supplies, and shearing and raw wool. Only after the needs of Federal agencies have been satisfied are such items as these available for public distribution.

Whether or not he is a consumer, usable property may be sold to any buyer at the best price obtainable in excess of 75 percent of either cost or the price which that buyer would have to pay if he bought an equivalent quantity from a normal source of supply, whichever is lower. If such a sale as this cannot be made in a reasonable time, the property may be sold at the best price obtainable to a buyer who will consume it in the United States only for manufacture or maintenance of repair purposes and who will agree, if he does not consume it, not to resell it at a profit.

The surplus war goods, as a general thing, will be sold "as is, where is," and will not be transported about the country. Under the present law, it is not believed possible for the disposal agencies directly or indirectly to grant preferential prices to particular classes of purchasers, though goods will be sold in lots small enough to give small business a genuine equality of opportunity to buy.

Whereas the Procurement Division of the Treasury and the War Food Administration will sell surplus consumer goods, the Reconstruction Finance Corporation will sell surplus capital goods. The goods will be made available at regional offices of these agencies, lists of which will be made public.

will result in a large loss of fancy fruit.

The chemical used in the harvest sprays seems to temporarily counteract in some way the process of abscission or some other process responsible for abscission. In this way it delays drop of the fruit. The treatment does not seem to influence the rate of ripening, color formation or increase in size. So long as the apples do not drop, these processes go on at a normal rate which is affected by weather and nutritional conditions. The value of the harvest spray, then, would seem to consist mainly in a protection from excessive drop during the normal harvest of a well-matured crop.

Generally 1 to 3 days are required for these sprays to become effective. The maximum effect is usually reached in about 5 days. The length

HARVEST SPRAYS

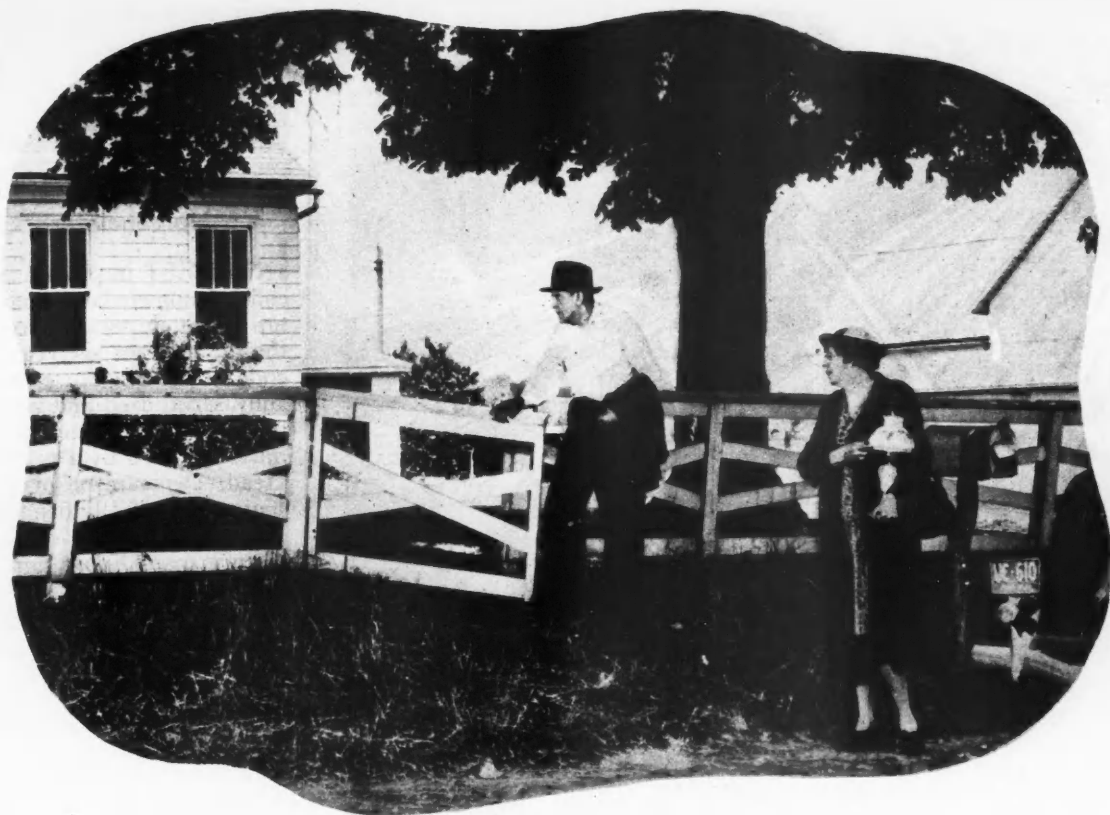
(Continued from page 10)

of the period of effectiveness varies with the variety and also depends to some extent on weather conditions. The effects of a single treatment may persist for 2 to 3 weeks with most varieties. In the case of the McIntosh, however, this period will not be longer than 7 to 10 days when it seems to end rather abruptly, resulting in the immediate start of drop. McIntosh shows a temporary but very pronounced increase in the rate of respiration as it reaches picking maturity. This may explain why the variety is characteristically a heavy dropper and why the harvest spray has a shorter period of effectiveness on McIntosh than in the case with

most other varieties. With any variety the period of effective drop control seems to be shorter during warm weather than it is during cool weather. This may also be associated with respiratory activity.

Because of the short period of effectiveness on McIntosh the application should be delayed until some evidence of drop is noted so as to obtain the maximum protection at the time when drop is heaviest. The treatment should precede the harvest of any given group of trees by an interval of not more than 8 or 9 days. This may mean delaying the application on some trees until the harvest of others is under way. A duplicate application on McIntosh, made 4 or 5 days after the initial treatment, has extended the period of drop control

(Continued on page 20)



Taking one last look . . . too soon

All too often, the reason men quit farming is because they are just plain tired out. Hard physical labor gets into their backs till they can hardly straighten up. Their arms and legs get so dog-tired that a night's rest is no longer enough to make them feel like facing another day.

When they can't take it any longer, a house in town with a garden and maybe a few hens looks good.

But hoeing vegetables and gathering eggs is a life that leaves a lot to be desired by a good many men in their sixties. They still get a warm feeling deep inside from seeing their loft full of rich hay, or letting the first fat kernels of number one wheat trickle through their fingers, or running their hands along the straight, sleek back of a finished steer!

However, thousands of men past sixty have got away from the back-

breaking labor of farming. They are using the Ford Tractor with Ferguson System and Ferguson Implementations.

For example, take Christie Carlin of Palmyra, Wisconsin. He's eighty-five years old and puts in full time with his Ford Tractor with Ferguson System on the land he helped break with oxen back in 1869. Recently, he brought more of his place under cultivation by breaking up ninety acres of marshland himself. Farming is the kind of life Mr. Carlin likes and this modern

farming machine is helping him live it.

If you keep on doing your work the old-fashioned, hard way year after year, retirement may offer the only relief you can get from a sore back and from aching arms and legs that never feel quite rested.

But if farm life is your kind of life, let your Ferguson Dealer show you how the Ferguson System takes all the backache out of farming and how it will add many years of bigger returns and greater satisfaction to your active career on the land.

MUSCLE SAVERS FOR THOSE HARD, EXTRA JOBS



The Ferguson Blade Terracer grades and levels roadways, clears them of snow, builds terraces. The Ferguson Soil Scoop builds dams, does all kinds of dirt moving. The Speeddigger digs 600 postholes a day, digs holes for dynamiting stumps, for planting

trees or hedges. The Cordwood Saw is tractor-mounted. It goes to the job instead of the job coming to it.

Do all these jobs quickly and easily, the Ferguson way. Save your back and arms—stay rested, farm the modern way.



The only Tractor that Automatically Changes its 'Weight' to Suit the Job.

HARRY FERGUSON, INC. • Dearborn, Michigan



To take the measure *of a coming job*

FEW people notice or even think of the many special abilities the railroads have been required to develop. One of these is accurately anticipating the need of agriculture and other industry for rail transportation.

Because they do this, freight cars for years have almost always appeared at the right place, at the right time and in the right number. This has been a *must* for orderly marketing and efficient low-cost transportation.

Today, while everything they have is working day and night to hasten victory, the railroads are busy also taking the measure of the jobs that lie ahead.

What new kinds of goods

will have to be carried? What kinds of cars will they need? Where will they come from and where will they go? What service and rates will be needed to develop business, shipping and employment?

Long before the call comes for post-war action, the answers to these and hundreds of other questions must be ready. Finding the answers to these questions is the work of a separate group of seasoned railroaders — the Railroad Committee for the Study of Transportation.

In this way, the railroads are looking ahead to the time when America turns again to peacetime work — and planning their necessary part in helping to make it a wonderful land to live in, just as they have helped make it strong in time of war.



AMERICAN RAILROADS

ALL UNITED FOR VICTORY

A P S

Nomenclature Code

INTEREST in plant names and the code of nomenclature has become of top flight importance recently. For the past five or six years the A.P.S. code of nomenclature has been carefully scrutinized and revised to meet present day needs by an A.P.S. committee headed by Dr. M. J. Dorsey, Head, Department of Horticulture, University of Illinois, Urbana. The A.P.S. adopted a code of nomenclature many years ago. This code has been revised from time to time to keep it abreast of the times. It has been recognized all over the world as a workable and sensible code, and it has the respect of the pomological world, even though it is often violated. The code, as it now stands, is a guide post for those who have new fruits to name for introduction. There is nothing binding in its provisions, but it stands as a sort of umpire and silently bids for gentlemanly conduct and correct procedures in the naming of varieties.

Dr. Dorsey has on several occasions presented the matter of variety names to the members of the American Society for Horticultural Science at their annual meetings. At first there was a lukewarm reception to the idea that a scientific group of men should have a step in plant or variety names. Interest in this subject has increased to the point of becoming intense as indicated by the fact that the A.S.H.S. has recently named an able committee to study the proposition. Here again is an example of what an "over-all" organization such as the A.P.S. can accomplish, so long as it has in its leadership men of high purpose, vision and imagination. Time and again, the A.P.S. has pointed to problems and finally stimulated action that got results.

The committee on Nomenclature has on several occasions at the annual meetings of the A.P.S. pressed home the point of view that there should be a registration of plant names system adopted in the United States, that funds should be provided to organize a registration system and this could be properly a function handled by the United States Department.

The whole problem of variety names is acute and made acute by
(Continued on page 17)

NUT GROWERS NEWS

Meeting Postponed

THE current meeting of the Northern Nut Growers' Association has again been postponed owing to war conditions. The secretary polled the members in Canada, New York, Ohio and Pennsylvania and others who attend occasionally. About 50 replies were received and all except one were strongly in favor of postponing the meeting. Only one member would attend if the meeting were held.

A report for 1944 will be assembled and published as in previous years. This will contain papers by the members and others on various phases of nut culture. Members who have anything to contribute in the way of observations on various phases of nut tree culture or the performance of varieties under different conditions are invited to send these observations to the secretary for inclusion in the report.

The 1943 report is still in the hands of the printer, but is expected to be ready for mailing about September 15th. Non-members may purchase the report from the secretary at \$1.00 a copy.

Persons intending to plant nut trees may secure from the secretary a list of nurseries specializing in improved varieties. This circular also lists publications on nut growing which should be studied before the trees are ordered.—George L. Slate, Sec., Northern Nut Growers' Assoc., Geneva, N.Y.

(Continued from page 16)

the action of unscrupulous persons and concerns who refuse to abide by a code.

If the present A.P.S. committee on the code of nomenclature and the committee recently appointed by the A.S.H.S. will work together, enough steam should be engendered to secure sooner or later for horticulture in the United States a registration system for variety names. There is an influential group in both organizations which believes that the registration system should be administered by the U.S.D.A., for it is felt that this is by far too big a problem to be attempted by any less well organized body.

A. L. Lantz
Secretary

A TRIBUTE TO DEPENDABLE PERFORMANCE



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2,000,000 BRIGGS & STRATTON Engines
testify to their perfection of design, their fine
engineering, and to precision production.

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Manufacturers of all types of appliances, tools and equipment requiring dependable, compact power units are invited to investigate the performance record of Briggs & Stratton engines. The latest models are backed by the experience gained in twenty-five years of continuous production of AIR COOLED Gasoline Engines. BRIGGS & STRATTON CORPORATION, Milwaukee 1, Wisconsin, U. S. A.



His hands are busy now with the work of war. But his heart is full of the warm, comforting thoughts of home . . .

"How I could go for a swim in the old dam! . . . Sure would like to take the beagles hunting again . . . Remember how we used to pop corn on Saturday nights?"

Yes, these are the things that fill his letters—little things, small familiar pleasures. But, to him so far away—as to all of us—they add up to Home.

It happens that to many of us these small pleasures include a glass of beer occasionally—as a beverage of moderation after a hard day's work . . . enjoyed with friends or with a home-cooked meal.

A glass of beer or ale—not of crucial importance, surely . . . yet it is little things like this that help mean home to all of us, that do so much to build morale—ours and his.



Morale is a lot of little things

HARVEST AND STORAGE

(Continued from page 9)

merous varieties of apples will be closely watched throughout the storage period. These tests should indicate whether the practice has any practical value. Aside from the control of apple scald and the removal of the fruit-ripening gases, such as ethylene, brominated charcoal removes all the musty and wood odors in the storage room which sometimes impair quality a little.

Fruit growers are sometimes confronted with the problem that certain varieties of their apples do not keep as well or as long as they would like to have them keep in storage. For example, McIntosh apples cannot be held much after March with much assurance that they will have prime eating quality in ordinary cold storage. With a new technique in storage, called **CONTROLLED ATMOSPHERE STORAGE**, McIntosh apples can be kept in good condition the year around. Seven years of research at Cornell University have indicated the possibilities and limitations of this newer method of storage for New York and New England apple varieties.

Although McIntosh is probably the most outstanding of all New York varieties in its response to this new method of storage, Rome Beauty responds very well to this procedure also. In fact, it might be pointed out that Rome Beauty has been kept in good condition for two years in Controlled Atmosphere storage. Other New York varieties, like Northwestern Greening, Twenty Ounce, Golden Delicious, and Northern Spy, also respond very favorably to this procedure. There are still other varieties like Wealthy and Jonathan, which respond adversely to this technique of storage. Further study with varieties from different sections of the country are needed to determine the suitability of this type storage for all varieties in all sections of the country.

There are now a number of commercial installations of Controlled Atmosphere storage in New York State and the success of these pioneers shows that it is a real success with the variety McIntosh.

DR. A. VAN DOREN, author of this article, is formerly of Cornell University, Ithaca, New York. He has recently succeeded Dr. N. F. Childers at Ohio State University, who resigned to accept the position of Assistant Director, U.S.D.A. Experiment Station, Mayaguez, Puerto Rico.

CONVENTION NEWS

UNUSUAL optimism was the keynote of the Golden Anniversary Convention of the International Apple Association at Chicago last month. The traditional apple crop forecast at the end of the convention predicted a minimum crop this year of 119 million bushels, a maximum a little above the U.S. Department of Agriculture's estimate of 125 million. The new OPA apple order, given original release at the convention, generally met with a favorable reaction. Lack of storage space in certain areas was regarded as critical. Outlook for increased fruit exports after the war was pictured as being exceptionally bright.

Prospects for increased exports tended to stimulate interest in the creation of a U.S. Fruit Council, discussion of which was led by Fred A. Motz of the Department of Agriculture's Foreign Agricultural Relations. Mr. Motz pleaded eloquently for such a council which the convention voted unanimously to support. New president to succeed able Paul W. Scea of Washington was John M. Henderson of New York. Sam M. Cohodas of Michigan was elected vice president and Francis H. Blake of New York, treasurer. The veteran Samuel Fraser was re-appointed secretary.

80th BIRTHDAY CELEBRATION

By EDWIN C. TYSON

EDWIN C. Tyson, orchard supply dealer for a good many years, celebrated his 80th birthday on the 28th of August.

At one time, Mr. Tyson operated the biggest orchard supply business in the East. His many friends have undoubtedly called on him in the Tower Room office in his home at Flora Dale, Pennsylvania, overlooking the hills of Adams County which are planted almost exclusively to orchards.

A very complete line of orchard supplies and equipment has been handled by Mr. Tyson during the past years, and in spite of war shortages, he is still doing a grand job.

As capable as ever, Mr. Tyson seems to be doing more than he did five years ago—running his garden, as well as his office. He is as active as ever in community affairs and Friends' Meetings.

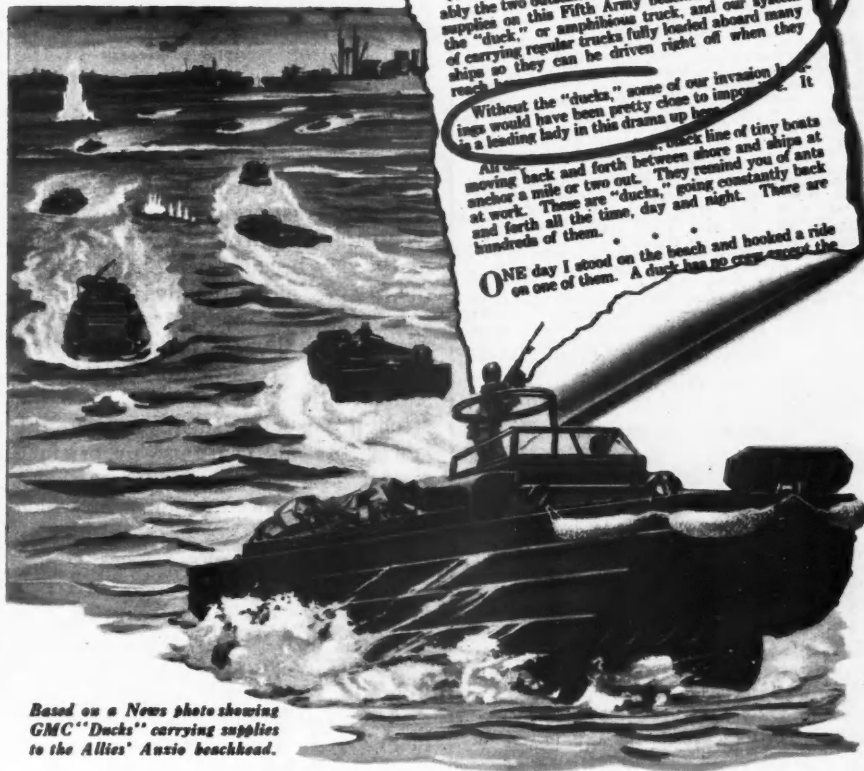
His innumerable friends hope the occasion of his 80th birthday was a happy and memorable one.

THE GMC "DUCK"

LEADING LADY OF ALLIED LANDINGS

Says Ernie Pyle,

Scripps-Howard War Correspondent



Based on a News photo showing GMC "Ducks" carrying supplies to the Allies' Anzio beachhead.

WITH FIFTH ARMY REARHEAD FORCES IN ITALY, April 19—(By Wireless)—Probably the two outstanding features of our handling of supplies on this Fifth Army beachhead have been the "duck," or amphibious truck, and our system of carrying regular trucks fully loaded aboard many ships so they can be driven right off when they reach the beach.

Without the "ducks," some of our invasion landings would have been pretty close to impossible. It is a leading lady in this drama up here.

All day long, a long line of tiny boats moving back and forth between shore and ships at anchor a mile or two out. They remind you of ants at work. These are "ducks," going constantly back and forth all the time, day and night. There are hundreds of them.

ONE day I stood on the beach and looked a ride on one of them. A duck has no crew except the

INVEST IN VICTORY . . . BUY MORE WAR BONDS

Ernie Pyle, Pulitzer Prize winner for war reporting, is only one of many war correspondents to praise the outstanding performance of the GMC Truck & Coach "Duck."

The "Duck" is a leading Lady of Allied landings because its amazing amphibious ability enables it to perform many tasks that can be duplicated by no other vehicle. It has carried men, munitions and materials from ship to shore to inland fighting areas. It has charted invasion shores the night before "D" day. It has hauled howitzers from freighter to firing position. It has rescued disabled landing craft. It has blasted enemy beaches with barrages from multi-mounted rocket guns. It has served as a radio broadcaster, land and water ambulance, command car and mobile fueling station.

And in France, this versatile GMC amphibious truck again played a leading role in the invasion of Fortress Europe.

GMC TRUCK & COACH DIVISION GENERAL MOTORS



SOME OF COMMERCIAL GMC TRUCKS AND GMC COACHES . . .
VOLUME PRODUCER OF GMC ARMY TRUCKS AND AMPHIBIOUS "DUCKS"



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Count each initial and whole number as
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250-350 PEDIGREED SIBED BIG TYPE EGG-BRED
"AAA" White Leghorn pullets \$14.95. Unsexed \$8.25.
Cockerels, \$3.00. Four Weeks old "AAA" pullets \$25.50.
95% sex guarantee. Catalog. MARTI LEHORN FARM,
Windsor, Missouri.

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TION books, slightly used. Sold, Rented, Exchanged. All
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courses. Complete information and 92-page illustrated
bargain catalog FREE. Write NELSON COMPANY,
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FOR SALE—MT. GILEAD HYDRAULIC CIDER PRESS
36-inch size—completely equipped. Excellent condition.
BOYCAN'S, Nutwood, Ohio.

NIAGARA GRADER COMPLETE. TWO-WAY CLEAN-
er. Seven sizes also Hardie Model Pump. 45-50 gal. 20
minute. Good condition. \$250.00. FRUIT GROWERS OF
CHESTER COUNTY, INC. 250 South Franklin Street,
West Chester, Pa. Telephone 0425.

FOR SALE—McCORMICK-DEERING ORCHARD DISK
Harrow. Excellent condition. Located in Ohio. For par-
ticulars—Write W. N. ROBERTS, 608 South 85 Street,
Birmingham 6, Alabama.

FOR SALE: ELECTRO MAGNETIC APPLE AND FRUIT
Sizer, new. Rebuilt Cider Presses of all sizes. Cider
equipment and supplies. W. G. RUNKLES MACHINERY
COMPANY, 185 Oakland St., Trenton, New Jersey.

HORSE TRAINING

"HOW TO BREAK AND TRAIN HORSES"—A BOOK
every farmer and horseman should have. It is free;
no obligation. Simply address BEERY SCHOOL OF
HORSEMANSHIP, Dept. 1389, Pleasant Hill, Ohio.

NURSERY STOCK

STRAWBERRIES—AUGUST OR APRIL SHIPMENT.
Per 100, Prepaid, order soon. Wayzata, \$4.50; Gemzeta,
\$4.00; Imp. Gem, \$2.50; Cresco, \$2.00; Premier, \$2.00;
Dunlap, \$2.00. W. A. BENTS NURSERIES, Cresco,
Iowa.

FOR SALE: FRUIT TREES, FRUIT TREE SEED-
lings, root grafts, blight resisting Chestnut trees, small
fruits. Could not supply demand last spring. Order now,
crop very short. VIRGINIA TREE FARM, Woodlawn,
Virginia.

ORCHARDS FOR SALE

126 ACRE COMMERCIAL APPLE AND PEACH OR-
chard, complete with all equipment. For sale. Normal
crop. 10,000 bushels. Beautiful modern home. Close to
good markets. Owner retiring. E. C. AUERSWALD,
North Vernon, Indiana.

FRUIT FARM—CONSISTS OF 185 ACRES. MOSTLY
in apple orchard. Age of trees range from two to sixteen
years. Farm fully equipped for all work. Address—MRS.
HERBERT M. BRENNEMAN, R.D. 2, New Cumberland,
West Va.

FOR SALE—9 ACRE FRUIT FARM, TERRACED-
brook—building lot. \$3500. MRS. ANNE HOWLAND,
New Milford, Conn.

FOR SALE—LANGSTRAAT ORCHARD, 10 ACRES.
Semi-Modern House. Chicken house, 2000 cap. Two-story
barn. Apple display room and cellar—2000 bushel cap.
Double garage. Good well and two large cisterns. Equip-
ment included. Tractor, power sprayer, cider mill and
other tools. 400 trees bearing 2000 to 5000 bu. fruit mostly
apples. Berries, currants and grapes. Price, \$17,500.
\$7500 down. Balance terms. Inquire LANGSTRAAT
COAL YARD, 2000 S. Washington Street, Peoria, Illinois.

FOR SALE: DUE TO THE DEATH OF ONE OF THE
partners, an estate near the famous winter resort, Pine-
hurst, N.C., 1100 acres of land, 735 acres under cultiva-
tion, 250 acres in peaches, 250 acres in young apples.
The sale of the peaches for 1944 brought \$36,000.00. The
apples haven't been sold yet. Has manager's house,
packhouse, tenant houses, grading machinery, tractors,
and spray machines. Price, \$100,000 an acre, including
all the above. J. R. LOWERY, Salisbury, N. C.

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QUILT PIECES—500 \$1.00. SATISFACTION GUARAN-
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CHIN-CHIN GIANT CHINCHILLAS. KING OF RAB-
bits. Most beautiful fur. Small investment. Large
profit. Free illustrated booklet. WILLOW BROOK
FARM, R. 32, Sellersville, Pa.

RUBBER STAMPS

TRY OUR RUBBER STAMPS TO MARK YOUR FRUIT.
Expert work. Est. 1910. SMITH COMPANY, 39 West
Adams Street, Chicago, Illinois.

HARVEST SPRAYS

(Continued from page 14)

for several days beyond that secured
with a single spray. Since there is a
longer period of effectiveness on other
varieties, the application can be more
conveniently made prior to the begin-
ning of picking operations. If con-
siderable drop has taken place before
the spray is applied, indicating that
the abscission of many fruits is well
under way, the results are likely to be
disappointing. Correct timing of the
application is probably the most im-
portant single factor in the successful
use of the harvest spray. Thorough
spraying so as to cover all leaves and
reach the fruit stems is also essential.

The harvest spray is most effective
when applied during the warmest part
of the day because it probably enters
the tissues more readily under such
conditions. A concentration of 10
parts per million of the chemical has
come to be regarded as sort of a
standard recommendation. This is the
strength usually suggested on the
labels of the various proprietary
products. It can be regarded as a gen-
eral or basic concentration from which
variations can be made depending on
the variety, vigor of the trees, condi-
tion of foliage, and temperature. For
varieties on which the treatment has
proved particularly effective, such as
Delicious, it is likely that 5 parts per
million, or one-half the usually sug-
gested concentration would prove suf-
ficient if the trees were vigorous and
the temperature at the time of applica-
tion was 75°F. or higher. This con-
centration could be increased if cooler
weather prevailed. McIntosh and
other varieties that offer a similar
drop problem should receive a spray
containing 10 parts per million.

During the past 3 seasons, a talc
dust containing 0.1 per cent naphtha-
lene acetic acid has given equally
satisfactory results in drop control
on McIntosh as has the same material

applied in spray form at concentra-
tions of 10 parts per million. The
trees used in those tests were of a
young age (17 to 20 years) and were
quite vigorous. Whether or not dust-
ing as a means of applying these
chemicals will prove to be as effective
as a liquid spray with all varieties
and under all conditions remains to
be determined. The material in dust
form is more expensive but it can be
applied very rapidly with a consider-
able saving in time and labor.

Don't fall out of trees or off
slippery ladders. Get the
new
FRUIT PICKER
6-Ft. Handle \$3.25
SCHAEFER MFG. CO.
203 East Berry, Fort Wayne, Ind.

**MAKE BIG MONEY
SAWING WOOD NOW**

**350 Cuts
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ONE-MAN TRACTOR SAW**

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to win the war. Use Ottawa—fastest cutting;
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are available to you!

Write for Information
KER-O-KIL MFG. CO.
Redwood City, Calif.



A Proven KILLER OF PEACH TREE BORER!

Para-dichlorobenzene has long been
recommended by the U. S. Dept. of
Agriculture and leading fruit growers
as a proven killer of the peach tree
borer. It destroys the borer's larvae
without harm to the tree... is easy
to apply... requires no special equip-
ment... no mixing! Write imme-
diately for complete information on

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SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by
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WANTED ORIGINAL SONG POEMS! FIVE STAR
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BUILD POWERFUL FARM TRACTOR FROM OLD
auto parts. Plans, instructions, \$1.00 postpaid. Satisfac-
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ZINE, 900 St. Clair Building, Chicago, Illinois.

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ing, grading and packing commercial apple crop. Mail refer-
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ion free. Write "IMSCO," 6347 Parnell M, Chicago 21,
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welds, brases, solders, cuts all metals, easy to use;
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metallic arc attachments, carbons, fluxes, rods, mask.
Guaranteed One Year. Only \$19.95. Used by the Navy.
Splendid for farm use. MAGIC WELDER MFG. CO.,
241 LS Canal St., New York, New York.

STATE NEWS

OHIO—Taking sharp issue with the Department of Agriculture's August 1 estimate of five and a half million bushels of apples for Ohio, Frank H. Beach predicted a yield of only four million bushels at the annual Orchard Day meeting of the Ohio Agricultural Experiment Station at Wooster last month. Extreme dry weather during July and early August in most sections of Ohio was given as the reason for Mr. Beach's lower estimate. Not only would the quantity be less, said Mr. Beach, but there would also be a larger percentage of undersized apples than usual. Peaches, he said, were somewhat smaller than had been expected but were of a high sugar content. Grapes promised to yield high. Feature of the meeting was an excellent address on "Harvesting and Storing Apples" by Dr. Archie Van Doren of Ohio State University. Hundreds of interested growers saw a demonstration of Speed sprayers.

ILLINOIS—Over 250 fruit growers assembled recently at the Nugent & Schapanski Orchards at Grafton and went through the U. of I. experimental plots in this orchards.

The growers left the packing shed in the morning on trucks headed by public safety patrol car with a public address system, and traveled through the orchard making numerous stops at the different plots where Dwight Powell and S. C. Chandler explained about their work. They reassembled at the packing house at noon, where Nugent & Schapanski served a splendid lunch.

Captain Westwick in charge of the safety patrol car with two assistants did a splendid job in handling the crowd, he also made a report on the safety work done by the Illinois state police saying it was the best in the United States.

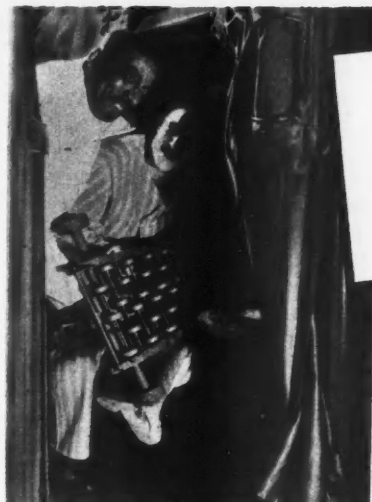
L. S. Steiner, U. S. Dept. of Agriculture man from Vincennes, Indiana, told about the results of their plots last year and this year at Vincennes, especially interesting was his report on the new D.D.T. spray which is giving wonderful results.

Mr. Nugent, Dave Dell, Mr. Kibler, and Captain Westwick did a swell job and we want to take this opportunity to thank them for it. Hugh Hale, president of the Illinois State Horticulture Society and Mr. Nugent both welcomed the guests to this wonderful meeting. Hosts of Dave Dell's friends were there from all over the country including growers from Arkansas, southwestern and northwestern Missouri. All I can say if you weren't there you have missed the finest summer meeting in a decade.—C. C. Mast, sec'y, Quincy.

MARYLAND—Maryland's peach crop is rolling through the packing houses and the lack of thinning plus dry weather are showing up in small fruit size. A few growers tried deblossoming sprays on peach bloom, and their results should be of interest when figures are completed.

The entomologists are trying D.D.T. on various fruits to find what possibilities this material may have in insect control. There is no doubt that it will have its good points, but enthusiasm and expectations should not rise too high until the full story is known.

Prolonged dry weather and heavy late codling moth outbreaks are making the final size and finish of the apple crop a matter of considerable concern.—A. F. Vierheller, *Extension Horticulturist, College Park.*



**ROLLING TO
WASHINGTON
IN LOWER 5**

The Army wanted action. Traveling via pullman we got it there on time so that the boys on the fighting front could have the best, on time!

Rapid-Wheel conveyor with the new portable "Cam-lock" supports is a new conception of labor-saving now available for civilian use. It is quick and easy to adjust from a minimum of 6" to a maximum of 50" operating height. Each unit is self-contained and self-supported on easy rolling wheels.

Take the "lift" and "lug" out of your conveying operations. Write for bulletin C142-B today! The Rapids-Standard Company, Inc., 5357 Bond Avenue, N. W., Grand Rapids 2, Michigan.



Rapid-Wheel CONVEYORS

Control PEACH BORERS the safe way

● Para-Scalecide has a 12-year record of safety and effectiveness for peach borer control that is unequalled by any other method. It has been used on millions of peach trees—young and old—without a single report of injury. Para-Scalecide is not only safe—it actually has a healing effect on peach borer wounds. And it requires far less labor and time than the old crystal method.

Dilute Para-Scalecide 1 to 7 parts of water. Pour or spray against the base of the tree. Promptly throw a few shovelfuls of earth against the base to hold the fumes. No further attention is necessary.

Apply in the early Fall, before cold weather sets in, or in late Spring. One gallon treats 40 to 50 full-grown trees. Order Para-Scalecide now and be ready in time for safe, simple, sure control of peach borers. Your dealer has Para-Scalecide, or will get it for you.

B. G. Pratt Co., 163 River St., Hackensack, N. J.

Manufacturers of Scalecide, Para-Scalecide, Spray Catalizer, Spra-Creem, Summer Spra-Creem, D-X



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HUNTS ACME GRAFTING COMPOUND, Used for grafting or as a protective coating.

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Also brush and hand grafting wax. Send for price list. Above products endorsed by Michigan State College.

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CORD WOOD FREE
GET FUEL FAST
Wood is bringing the highest prices ever known. There is a big demand everywhere. Log an OTTAWA Log Saw, easily operated. Pulls trees, covee bushes. Turn your wood lot into money. OTTAWA LOG SAW CO., 922 Wood Street, OTTAWA, KANAS

EDITORIAL PAGE



Wholesale Versus Retail

OUR mail brings us a copy of a letter that Frank E. Trobaugh of West Frankfort, Illinois, wrote to O.P.A. Administrator Chester Bowles which we quote in part:

"We have a serious complaint about the O.P.A. ceiling prices on peaches. If it be true that the retail price of peaches is about where it should be, there is no justification for the outlandish spread between \$3.66 the grower is to get for the peaches and nearly \$8 the consumer is to pay for them.

"It takes five or six years for a peach tree to come into bearing. A grower who averages half a crop each year does well. War plants and war industries are paying wages such that fruit growers find it practically impossible to compete. Baskets have gone up from \$1.35 to \$3 a dozen.

"Every itinerant peddler, with only a few dollars invested in a load of peaches, will sell for the maximum ceiling. By handling them but a few hours he will make more profit than the grower gets for producing the peaches with years of work and grief and an investment of thousands of dollars for a very small average output of fruit. Is there any economic or social justice in this?"

There is undoubtedly much truth in the above complaint, but it should be pointed out that O.P.A. by its ceilings is merely recognizing an old injustice rather than creating a new one. The basic injustice is that while the farmer sells at wholesale prices, he must buy at retail.

There is no one complete answer to this problem, but several factors can help. Probably the most promising is the roadside stand. In Ohio, for example, 26 percent of all fruit grown is marketed in this way. O.P.A. permits farmers to charge the full retail price at such stands. They are the farmer's answer to the itinerant peddler Mr. Trobaugh complains of.

Even less capital is required for such selling than the peddler needs. Through carefully planned, yet inexpensive advertising, fruit growers near large cities could extend the scope of this roadside selling by persuading consumers from a larger area to patronize their stands. The field of marketing is wide open to the farmer so situated who cares to enter it.

Growers in most of the Southern and Western states can make but limited use of roadside selling, however, since they are far removed from populous centers. Their problem is more difficult. But blaming O.P.A. exclusively for the spread between wholesale and retail prices is not a very effective way of solving this old economic problem.

Europe's Ravaged Orchards

LITTLE by little we are getting some of the facts about the fruit situation in Europe. Speaking before the International Apple Convention, Fred A. Motz of the U. S. Department of Agriculture gave these facts: The severe winter of 1941-42 killed an estimated 60 million fruit trees in Germany alone and almost wiped out the fruit growing industry of Finland where a million trees were lost; the frost that killed much of England's fruit last Spring did great damage to French and Belgian orchards. Spain's citrus industry is producing less than half its pre-war output; Palestine will produce but five million boxes of oranges this year whereas its estimated production had there been no war would have been 22 million boxes.

More About DDT

AN EDITORIAL in our June issue entitled, "Keep Your DDT Shirt On," carried this paragraph: "DDT is not, as is sometimes reported, nontoxic to man. 'It is impossible,' says Dr. H. H. Tisdale of the DuPont Experimental Laboratory, 'to find any substance universally deadly to insects that is entirely harmless to man'."

Since that was written, many experiments testing DDT's effect on man and other warm blooded animals have been concluded. Unfortunately, these tests confirm Dr. Tisdale's opinion. "The toxicity of DDT combined with its cumulative action and absorability from the skin places a definite health hazard on its use," writes Dr. M. I. Smith in U. S. Public Health Reports.

The August 5 Science News Letter has this warning: "Before it is widely used as an agricultural spray, scientists would like to know whether the liver or other organs may be seriously

damaged by eating it on fruits and vegetables. The amount on each apple or tomato would be small, but in the course of a few years quite a lot might accumulate in the body from such sources."

All in all, it is just as well that DDT's introduction has been delayed by war priorities. It holds great—almost fabulous—promise to fruit growers. But we should know how to use it properly before we use it widely.

Exporting Fruit

THE dramatic change in America's position in world shipping was emphasized by Harvey Klemmer, executive secretary of the Maritime Commission Post War Planning Committee, at the International Apple Convention. From one-sixth of pre-war world shipping tonnage, said Mr. Klemmer, America will emerge with two-thirds of the total. But even these figures do not tell the whole story. Where U.S. merchant ships were mostly obsolescent when we entered the war, we will emerge with the most up-to-date merchant fleet in the history of the world. Once peace comes there will be no need to operate the less efficient Liberty models, according to Mr. Klemmer, since there will be plenty of the better Victory models.

To an industry that regularly exports as large a part of its output as fruit growing, this improvement in our shipping status is of particular interest. It was pointed out elsewhere at the convention that before the war fruit ranked third in our agricultural exports, being exceeded only by cotton and tobacco; and that of these three, fruit exports alone were on the increase. But the proportion of fruit exported is likely to be much larger after the war than before. In both Europe and Asia the ravages of war will have all but ruined fruit growing over large areas. It will take years to correct this devastation. In the meantime there is no adequate source of supply save the United States. We have the supply, the market and the ships in which to transport it. Seldom has there existed so fortunate a combination for prosperity in a major and widespread industry.

U.S.D.A. AUGUST 1 CROP ESTIMATES

August 1 Department of Agriculture estimates on almost all fruits showed an increase over those of July, being approximately 3 percent in the case of apples and peaches.

Kind of Fruit	Average 1933-42	1943	Estimate 1944
Apples.....	*122,376,000	89,050,000	125,643,000
Peaches.....	57,618,000	42,180,000	71,316,000
Pears.....	28,559,000	24,585,000	28,410,000
Grapes (tons)...	2,371,410	2,972,900	2,722,150
Cherries (tons)...	154,968	116,510	205,000
Apricots (tons)...	231,975	105,500	330,100

(*1934-42 average.)



*He's taking care of
the wartime load...*

Why Railroads anticipate a "green light" for postwar jobs

When victory is achieved, many men released from military service and civilian war jobs will look for an opportunity to be "working on the railroad." Here are some reasons why the railroads should need them:

Industry will require unprecedented peacetime freight movement to deliver the pent-up needs for civilian goods throughout the world.

War-worn rolling stock and motive power will be reconditioned or replaced... New lightweight freight and passenger cars will be built for fast service... Modern high speed and heavy duty locomotives will be needed... Many new Stainless Steel trains will appear. Roadbed, track, structures and all phases of railroading will require attention.

To support the Railway Industry's postwar objective of even greater speed, safety, dependability and comfort, men will also be needed in the steel, coal, power, oil, lumber, glass and other industries which supply the railroads.

BUY MORE WAR BONDS TODAY... And Hold for Peacetime Prosperity



*will peacetime traffic
take care of him?*

How Nickel will help give jobs a "clear track"

Today, just as Nickel is adding stamina to battle equipment, it is also helping the "iron horse" stand up to its wartime load.

From the sturdy boiler plates of giant locomotives to the flashing lightweight sheathing of Stainless Steel coaches, Nickel is saving weight, adding strength and resisting corrosion.

Tomorrow, Stainless and other Nickel steels, Monel and other high-Nickel alloys will go into even finer trains. These time-proven metals will help eliminate power-consuming weight by permitting thinner plates and lighter sections in many vital parts.

Meanwhile Railroads and manufacturers with metal problems are invited to consult Nickel's technical staff.

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THE PLUS ACTION HORMONE SPRAY ★



STAFAST*

HOLDS 'EM ON!

For Maximum Color... Size...

More of the MONEY FRUIT!

SPREADS PICKING...HELPS THE LABOR PROBLEM

Apple and pear growers have seen convincing proof of what the Stafast pre-harvest spray will do to hold the fruit on the trees for deeper color and increased size. This season they will apply the Stafast hormone spray for another important reason—to help in the shortage of pickers by spreading out the harvest period and cutting down or eliminating "spot picking."



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★ STAFAST stands out in the field of hormone sprays because of its exceedingly high percentage of active ingredients. Its effectiveness is derived not only from its naphthalene acetic acid content, but from the total content of its cooperative hormone functioning properties.

MAXIMUM SPRAY EFFICIENCY

STAFAST is made in dry powdered form so as to assure complete stability under all conditions. It contains wetting and adhesive agents to give maximum spraying efficiency. Addition of oil is not necessary. It is mixed in

the spray tank in the same way as any commonly-used powdered spray material, and, of course, it is kept under agitation and applied right after mixing.

↓ WHAT STAFAST WILL DO ↓

1. Reduce pre-harvest drop and windfall losses to a minimum.
2. Improve color, size and value of crop.
3. Spread out harvest period.
4. Cut down "spot picking."
5. Help solve labor problem.

GROWERS have proved in their own orchards that the STAFAST pre-harvest spray application pays for itself many times over.

WRITE TODAY for the complete story.

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